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PLANT IMMIGRANTS.

No. 155. MARCH, 1919.

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Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

May 10, 1919.

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Argania spinosa (Sapotaceae), 46969. From Algiers. Presented by Mr. T. H. Kearney of the U. S. Department of Agriculture. "Seeds collected from an Argania tree growing in the garden of the School of Medicine at Algiers." (Kearney.)

"A spiny, small-leaved tree from northern Africa, belonging to the Sapotaceae. It is a much-branched evergreen tree, attaining a height of from 20 to 30 feet. The fruits, the size of an olive, are used for feeding stock. After the small kernels have been roasted and ground, an oil of an irritating and harsh taste is extracted from them. This is, nevertheless, used in Morocco for food, and also for light. It makes a good soap. The tree will grow in the driest soil, and bears in four years. It is said not to be in full bearing, however, until fifteen years old." (Swingle.)

"The Argan tree is in many respects the most remarkable plant of South Morocco; and it attracts the more attention as it is the only tree that commonly attains a large size, and forms a conspicuous feature of the landscape in the low country near the coast. In structure and properties it is nearly allied to the tropical genus Sideroxylon (Ironwood); but there is enough of general resemblance to the familiar olive tree of the Mediterranean region, both in its mode of growth and its economic uses, to make it the local representative of that plant. Its home is the sub-littoral zone of southwestern Morocco, where it is common between the rivers Tensift and Sous. A few scattered trees only, are said to be found north of the Tensift; but it seems to be not infrequent in the hilly district between the Sous and the river of Oued Noun, making the total extent of its distribution about 200 miles. Extending from near the coast for a distance of 30 or 40 miles inland, it is absolutely unknown elsewhere in the world. The trunk always divides at a height of 8 or 10 feet from the ground, and sends out numerous, spreading, nearly horizontal branches. The growth is apparently very slow, and the trees that attain a girth of 12 to 15 feet are probably of great antiquity. The minor branches and young shoots are beset with stiff, thick spines, and the leaves are like those of the olive in shape, but of a fuller green, somewhat paler on the under side. Unlike the olive, the wood is of extreme hardness, and seemingly indestructible by insects, as we saw no example of a hollow trunk . The fruit, much like a large olive in appearance, but varying much in size and shape, is greedily devoured by goats, sheep,

camels, and cows, but refused by horses and mules; its hard kernel furnishes the oil which replaces that of the olive in the cookery of South Morocco and is so unpleasant to the unaccustomed palate of Europeans." (Hooker and Ball, A Tour in Morocco, p. 96.)

Chenopodium nuttalliae (Chenopodiaceae), 46956. **Huauhtli.** From Mexico. Purchased from Mrs. Zelia Nuttall, Coyoacan, Mexico City. "A form of Chenopodium (**huauhtli**) having white or rose-colored seeds. This shipment includes the entire crop grown at the little village of Los Reyes, as well as that of an Indian woman at Coyoacan. This is the finest kind of Chenopodium, and is not at all bitter. The black kind (S. P. I. No. 45722) is slightly bitter but the Indians say it is healthful, and they like it." (Nuttall.)

Cicer arietinum (Fabaceae), 47000. **Chick-pea.** From Mexico. Obtained through Mr. S. W. Augenstein, Steward, Cosmos Club, Washington, D. C., from General Alvardo Obregon, Sinaloa, Mexico. **Garbanzos** raised on the ranch of General Obregon in the state of Sinaloa, Mexico. Obtained for experimental work in this Office. "The exports of this **garbanzo** to Spain before the war were very large, and in Mexico as well as Spain it ranks as a staple food. It deserves the serious consideration of Americans." (Fairchild.)

Coelococcus amicarum (Phoenicaceae), 47007. **Ivory-nut palm.** From Hawaii. Fruits presented by Dr. Harold L. Lyon, Experiment Station of the Hawaiian Sugar Planters' Association, Honolulu. "These fruits were collected a few days ago on the premises of Mr. John Scott, of Hilo. Mr. Scott purchased fruits of this palm from a sea captain many years ago and succeeded in rearing one plant which is now a large, handsome palm, the only fruiting specimen in these islands." (Lyon.)

"A pinnate-leaved palm introduced into Guam from the Caroline Islands. The nuts are of an ivory-like texture and are exported from the Carolines to Germany for button-making. The spheroid fruit, about 7 centimeters long and 8 centimeters in diameter, has a reddish brown, glossy, scaly shell. The surface of the seed is glossy, black, and thickly striped, but not furrowed. The allied species of the Solomon Islands, *C. solomonensis*, has a straw-colored shell and the Fijian form, *C. vitiensis* (which is not used in the arts), is yellow. The inflorescence of this genus has not yet

been described. In some of the Solomon Islands the natives prepare sago from the pith of the species growing there. It is said to keep well and not to be injured by salt water, so that it is a valuable food staple to take with them on their canoe voyages." (Safford, Useful plants of Guam, p. 244.)

Colocasia esculenta (Araceae), 47002. **Dasheen.** Tubers grown at the Plant Introduction Field Station, Brooksville, Fla. "**Sacramento.** From Sacramento, California. Procured by Mr. Peter Bisset in a Chinese store under the name of 'China potato'. A dasheen similar in leaf characters to the Trinidad variety. The name **Sacramento** is given to it because the variety was obtained in that city. As compared with the Trinidad dasheen, the **Sacramento** variety has considerably fewer and larger tubers. Both corms and tubers are more regular in form, and when cooked they are generally lighter in color and are not so dry; this variety has much less flavor, however, than the Trinidad dasheen." (R. A. Young.)

Colocasia esculenta (Araceae), 47003. **Dasheen.** Tubers grown at the Plant Introduction Field Station, Brooksville, Fla. "**Ventura.** From Ventura, Cal. Presented by Mr. L. B. Hogue who obtained it several years previously from a local Chinese gardener. The name **Ventura** is given to signify the place whence the variety was obtained. A variety similar in general appearance to the Trinidad dasheen. However, the bases of the leaf stalks and the buds of the corms and tubers are distinctly more reddish in color than in the latter variety. The quality is similar to that of the Trinidad variety." (R. A. Young.)

Dioscorea alata (Dioscoreaceae), 47001. **Yam.** From Florida. Tubers of a yam growing at the Plant Introduction Field Station, Miami. Obtained April 7, 1905, from Mr. H. W. Steadman, Lemon City, Fla. Its previous history is unknown. "A white-fleshed yam of very good quality suitable for cultivation in southern Florida. The plant has been described as a rampant grower and a good yielder. A single tuber may weigh as much as 15 pounds. This yam may be baked or boiled and prepared in other ways, much like potatoes. It is best to peel before boiling. This variety is more moist than some others and, after boiling, may be mashed and beaten without milk." (R. A. Young.)

Dolichos lablab (Fabaceae), 47058. **Bonavist bean.** From the West Indies. Seeds presented by the Cotton Research Department, St. Vincent, through Mr. S. Cross Harland. "Seed of a bush form of *Dolichos lablab.* The seeds are white, and are very good to eat. Under our conditions the plants begin to bloom about five weeks after they have been sown and the whole crop is over in about ten weeks." (Harland.)

Hymenocallis sp. (Amaryllidaceae), 46974. From Ecuador. Presented by Dr. J. N. Rose, United States National Museum. "Bulbs of Hymenocallis obtained through Mr. Alfred Cartwright, at Guayaquil. Mr. Cartwright states that this plant has beautiful white flowers and long, slender, almost filiform, pendent petals." (Rose.)

Kraunhia sinensis (Fabaceae), 47008. **Wistaria.** From Texas. Cuttings presented by Mr. Charles E. Hogans, Houston. "Cuttings of a wistaria which I believe is rare in this country. It was given to me by a Japanese who had imported a few plants; he called it 'Formosa wistaria'. It blooms here in August, holds blooms for over thirty days, and the flowers are dark red. It holds its leaves all winter, if the weather is not extreme, and they are of a darker green than those of other varieties." (Hogans.)

Oryza latifolia (Poaceae), 47029. **Grass.** From Para, Brazil. Presented by Mr. André Goeldi through Mr. Geo. H. Pickerell, American Consul. "**No. 1.** A native rice, growing on soil which is not flooded in Marajo. It is interesting for several reasons. In the first place it is the tallest I ever heard of, growing sometimes to a height of 8 feet. In the second place, it is a perennial, growing in large isolated bunches for several years, flowering and bearing seeds the whole year around. Its leaves are very broad. The kernels may not have any industrial or culinary value, but as a cattle feed the green plant might be useful. Besides this, I consider it of interest from a phyto-geographical standpoint, demonstrating that real native kinds of rice are to be found in the Amazonian region." (Goeldi.)

Oryza sativa (Poaceae), 46953 & 46954. **Rice.** From Manchuria. Presented by Mr. A. A. Williamson, American Consul, Dairen. "Seeds of two varieties of dry or upland rice, received from the South Manchuria Railway

Company and which was grown at the Company's experiment station at Kung chu ling, Sinkiang. These two varieties are said to have given the best results yet obtained at that place, which lies about 400 miles north of Dairen, between 43° and 44° N. latitude, about on a line with Concord, New Hampshire." (Williamson.)

Oxalis crenata (Oxalidaceae), 47059. From France. Tubers presented by Mr. Stuart R. Cope, Paris. "I am sending you a couple of tubers of *Oxalis crenata* which has recently made its appearance here as a vegetable. It is directed to be cooked as the crosne, *Stachys sieboldi*, which is a common vegetable here and is usually fried in fat, but I am informed that this Oxalis may also be boiled and mashed, like turnips." (Cope.)

Panicum maximum (Poaceae), 47031. **Grass.** From Para, Brazil. Presented by Mr. André Goeldi through Mr. Geo. H. Pickerell, American Consul. "**No. 24.** A **Guinea grass** of gigantic growth, completely different from the common one we have here. The common **Guinea grass** has narrow leaves and reaches to a height of about 4 feet. This kind is stronger and much taller, having a very broad leaf, and reaching a height of 7 or more feet. It is not a native grass of this country but was introduced from Jamaica in soil which was packed around banana suckers. It was growing among the banana trees, and especially where the suckers had been laid down before planting." (Goeldi.)

Phalaris coerulescens (Poaceae), 46955. **Grass.** From Mustapha-Alger, Algiers. Presented by Dr. L. Trabut. "Seeds of a good forage grass. Our sheep know how to find the subterranean bulbous parts in the ground, and live on them, in summer, when all other vegetation is dried up." (Trabut.)

Phalaris truncata (Poaceae), 46952. **Grass.** From Mustapha-Alger, Algiers. Presented by Dr. L. Trabut. "For winter forage." (Trabut.) A perennial grass, about 2 feet high, found in the Mediterranean region. The flowers are borne in a dense spike, resembling timothy. (Adapted from Pereira, Flora de Portugal, p. 69.)

Prosopis chilensis (Mimosaceae), 46973. **Algarroba.** From Duran, near Guayaquil, Ecuador. Presented by Dr. J. N. Rose, United States National Museum. "The mesquite in

Ecuador, called **Algarroba,** is a very common shrub or tree in the dry parts of the Ecuadorean coast. The pods, which are produced in great abundance, are very sweet, and form a staple food for horses, mules, and cattle. The wood is very hard and of a dark brown color. It makes fence posts, tool handles, the very best of charcoal, and is an important fire-wood on railroad engines." (Rose.)

Pyrus kawakamii (Malaceae), 46979. **Pear.** From Formosa. Seeds presented by the Arnold Arboretum, Jamaica Plain, Mass. (Wilson **No. 10876.**) This pear is a native of the island of Taiwan and resembles *P. lindleyi*, from which it differs in having the leaves acute at both ends. The punctate, reddish fruits are globose and about one-third of an inch in diameter. (Adapted from Journal of the College of Science of the Imperial University, Tokyo, vol. 30, p. 99.)

Tigridia pavonia (Iridaceae), 46981. **Tiger flower.** From Casa Alvarado, Coyoacan, Mexico. Presented by Mrs. Zelia Nuttall, through Mr. Wilson Popenoe. "**Cacomite.** Among the plants used as food by the ancient Mexicans, the **cacomite** is one which has received comparatively little attention in modern times. This species is common on the slopes of the valley of Mexico, and is still used by the Indians to a limited extent. Doubtless it was of much greater importance as a foodstuff in ancient times than it is today. Mrs. Nuttall has planted in her garden a number of bulbs gathered on the hillsides near her home, and has found that they multiply rapidly and require no cultural attention. When in bloom, the plants are beautiful, their flowers varying from yellow to deep scarlet in color. As an ornamental plant the Tigridia is already known in other countries, but the use of its bulbs as an article of food is not common outside of Mexico. When fully developed, the bulbs are slightly less than two inches in diameter. For eating, they are usually boiled, or parboiled and fried. When boiled they are mealy and have a very agreeable flavor somewhat suggesting that of chestnuts. It is suggested by Mrs. Nuttall that the **cacomite** be given a careful trial in the southern United States as a root crop. When grown from seed it requires two seasons for the bulbs to reach maturity, but they demand very little cultural attention, and the ornamental character of the flowers should make the cultivation of the **cacomite** very attractive to those who are interested in new and rare vegetables." (Popenoe.)

Taiwania cryptomerioides (Pinaceae), 46980. From Japan. Seeds presented by the Arnold Arboretum, Jamaica Plain, Mass. An interesting evergreen tree, which may attain a height of 50 meters (164 ft.) and a diameter of 2 meters (6½ ft.), found at an elevation of 6,000 feet on the slopes of Mt. Morrison in Formosa (Taiwan). The leaves are of two kinds: those on the old wood are triangular and about one-fifth of an inch long, while those on the new growth are linear-falcate and more than half an inch in length. The subglobose cones, about half an inch long, resemble those of Cunninghamia, but the general habit of the plant is that of Cryptomeria. (Adapted from Journal of the Linnean Society, Botany, vol. 37, p. 330, and Tokyo Botanical Magazine, vol. 21, p. 21, pl. 1, 1907.)

Notes on Behavior of Previous Introductions.

A letter from Mr. Geo. E. Vinnedge, Supt. Engr. Park Dept., Fort Worth, Texas, dated April 4, 1919, states the following:

"Some six years ago we received a specimen of *Pistacia chinensis* (S. P. I. No. 24659) which is planted in the City Hall grounds, and is now 12 feet tall and measures 3½ inches in diameter at the base. It is just now, April 4, putting out its first leaves this spring. I think it will eventually prove a valuable tree in this climate."

United States Department of Agriculture.
Bureau of Plant Industry.
Office of Foreign Seed and Plant Introduction.
Washington, D. C.

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Peter Bisset, Plant Introducer, in Charge of Foreign Plant Distribution.
J. B. Norton, and Wilson Popenoe, Agricultural Explorers.
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Collaborators.

Mr. Aaron Aaronsohn, Haifa, Palestine.
Mr. Thomas W. Brown, Cairo, Egypt.
Mr. H. M. Curran, Bahia, Brazil.
Mr. M. J. Dorsey, University Farm, St. Paul, Minn.
Mr. Robt. H. Forbes, Cairo, Egypt.
Mr. A. C. Hartless, Saharanpur, India.
Mr. Barbour Lathrop, Chicago, Ill.
Mr. H. L. Lyon, Honolulu, Hawaii.
Mr. H. Nehrling, Gotha, Fla.
Mr. Charles Simpson, Littleriver, Fla.
Mr. H. P. Stuckey, Experiment, Ga.
Dr. L. Trabut, Director, Service Botanique, Algiers, Algeria.
Mr. H. N. Whitford, School of Forestry, New Haven, Conn.
Mr. E. H. Wilson, Arnold Arboretum, Jamaica Plain, Mass.
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